

C. Remarks

In the Office Action, claims 1 and 6 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,528,229 (Mehta). Claim 5 has been allowed, and claims 2-4 and 7-14 were objected to as being dependent upon a rejected base claim but deemed allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicant traverses the rejections as follows.

Claim Amendments

Claim 1

Without admitting the propriety or necessity of doing so, but rather for the purpose of expediting prosecution of the present application, claim 1 is herein amended to include subject matter of objected-to claim 2, now cancelled. Claim 1 is also herein amended to clarify aspects of the claimed subject matter. Amended claim 1 recites a method for controlling a speed of at least one fan used to cool a payload of a host system and includes the steps of:

- receiving a first signal indicative of a fan speed;
- receiving a second signal indicative of a temperature of the host system;
- selecting a temperature setpoint based on the fan speed using a speed-setpoint droop characteristic, the speed-setpoint droop characteristic comprising a plurality of fan speed values and corresponding temperature setpoint values; and
- computing a fan speed output for controlling the speed of the at least one fan based on a comparison of the host system temperature and the selected temperature setpoint.

Dependent claims 3 and 4 are herein amended in consequence of the amendment to

claim 1 and to clarify aspects of the claimed subject matter.

Claim 5

Claim 5, deemed allowable by the Office, is herein amended to clarify aspects of the claimed subject matter. Amended claim 5 recites a method for determining a speed-setpoint droop characteristic for adjusting a temperature setpoint of a temperature control loop based on fan speed and includes the steps of:

- selecting a range of ambient temperature operation of a host system, the host system comprising at least one fan controlled by the temperature control loop;

- defining an ideal speed-temperature characteristic for the range of ambient temperature operation;

- determining a first approximation of the speed-setpoint droop characteristic and a corresponding measured speed-temperature characteristic;

- comparing the measured speed-temperature characteristic to the ideal speed-temperature characteristic;
- and

- adjusting the first approximation of the speed-setpoint droop characteristic based on the comparison such that the measured speed-temperature characteristic is caused to approximate the ideal speed-temperature characteristic.

Applicant submits that amended claim 5 remains allowable over the references of record at least because it includes subject matter of claim 4 deemed allowable by the Office.

Claim 6

Without admitting the propriety or necessity of doing so, but rather for the purpose of expediting prosecution of the present application, claim 6 has been amended to include subject matter of objected-to claim 7, now cancelled. Claim 6 has

also been amended to clarify aspects of the claimed subject matter. Claim 6 now recites a thermal management system for controlling a temperature within a host system, the thermal management system, including:

at least one fan control module (FCM), each FCM comprising:

a temperature sensor;

at least one fan; and

a microcontroller in communication with the temperature sensor and the at least one fan, wherein the microcontroller is for:

receiving a first signal indicative of a fan speed from the at least one fan;

receiving a second signal indicative of the host system temperature from the temperature sensor;

selecting a temperature setpoint based on the fan speed using a speed-setpoint droop characteristic, the speed-setpoint droop characteristic comprising a plurality of fan speed values and corresponding temperature setpoint values; and

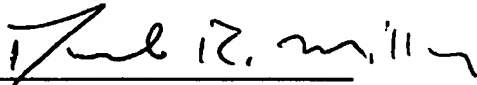
computing a thermal control loop fan speed based on a comparison of the host system temperature and the selected temperature setpoint.

Dependent claims 8-11, 13 and 14 have been amended in consequence of the amendment to claim 6 and to clarify aspects of the claimed subject matter.

D. Conclusion

Applicant respectfully requests a Notice of Allowance for the pending claims in the present application. If the Examiner is of the opinion that the present application is in condition for disposition other than allowance, the Examiner is respectfully requested to contact the undersigned at the telephone number listed below in order that the Examiner's concerns may be expeditiously addressed.

Respectfully submitted,



Daniel R. Miller
Registration No. 52,030
Attorney for Applicant

KIRKPATRICK & LOCKHART PRESTON GATES ELLIS LLP
Henry W. Oliver Building
535 Smithfield Street
Pittsburgh, Pennsylvania 15222

Telephone: (412) 355-6773
Facsimile: (412) 355-6501
E-mail: daniel.miller@klgates.com